Notice of Allowability	Application No.	Applicant(s)	
	09/809,278	SATO ET AL.	
	Examiner	Art Unit	
	A. Dexter Tugbang	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment filed on 3/31/04*.

2. ☒ The allowed claim(s) is/are *6-12,17-23 and 25*.

3. ☒ The drawings filed on *16 March 2001* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *5/17/04* .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Yong S. Choi on May 17, 2004.

The application has been amended as follows.

In Claim 6, the following changes have been made.

6. (Currently Amended) A method of manufacturing a magnetoresistive device substructure used for manufacturing a magnetoresistive device incorporating: a magnetoresistive element; and a patterned soft magnetic layer covering the magnetoresistive element and having at least one of functions of introducing a signal magnetic flux to the magnetoresistive element and inducing a bias magnetic field thereto, the method comprising the steps of:

forming the magnetoresistive element and an indicator having a shape similar to the magnetoresistive element and located in a specific position with respect to the magnetoresistive element;

forming an unpatterned soft magnetic layer on the magnetoresistive element;

forming a mask [for patterning] <u>on the unpatterned soft magnetic layer that is used to pattern</u> the unpatterned soft magnetic layer[on the unpatterned soft magnetic layer]; and

forming the patterned soft magnetic layer by selectively etching the unpatterned soft magnetic layer through the use of the mask,

wherein the mask is formed by aligning with respect to the specific position of the indicator while observing the indicator, so that the mask is located above the magnetoresistive element and not above the indicator, in the step of forming the mask.

In Claim 8, the term --patterned-- has been added before all of the occurrences of "soft magnetic" (each occurrence at line 2 and one occurrence on line 3); and the phrase of --is formed-- has been added after "magnetic layer" (2nd occurrence on line 2).

In Claim 9, the term --patterned-- has been added before the occurrence of "soft magnetic" (line 2).

In Claim 10, the term --patterned-- has been added before the occurrence of "soft magnetic" (line 3).

In Claim 17, the following changes have been made.

17. (Currently Amended) A method of manufacturing a magnetoresistive device incorporating: a magnetoresistive element; and a patterned soft magnetic layer covering the magnetoresistive element and having at least one of functions of introducing a signal magnetic flux to the magnetoresistive element and inducing a bias magnetic field thereto, the method comprising the steps of:

forming the magnetoresistive element and an indicator having a shape similar to the magnetoresistive element and located in a specific position with respect to the magnetoresistive element;

forming an unpatterned soft magnetic layer on the magnetoresistive element;

forming a mask [for patterning] on the unpatterned soft magnetic layer that is used to pattern the unpatterned soft magnetic layer[on the unpatterned soft magnetic layer]; and

forming the patterned soft magnetic layer by selectively etching the unpatterned soft magnetic layer through the use of the mask,

wherein the mask is formed by aligning with respect to the specific position of the indicator while observing the indicator, so that the mask is located above the magnetoresistive element and not above the indicator, in the step of forming the mask.

In Claim 19, the term --patterned-- has been added before all of the occurrences of "soft magnetic" (each occurrence at line 2 and one occurrence on line 3); and the phrase of --is formed-- has been added after "magnetic layer" (2nd occurrence on lines 2-3).

In Claim 20, the term --patterned-- has been added before the occurrence of "soft magnetic" (line 2).

In Claim 21, the term --patterned-- has been added before the occurrence of "soft magnetic" (line 3).

In Claim 25, the following changes have been made.

25. (Currently Amended) A method of manufacturing a micro device including a first patterned thin film and a second patterned thin film covering the first patterned thin film, the method comprising the steps of:

forming the first patterned thin film and an indicator having a shape similar to the first patterned thin film and located in a specific position with respect to the first patterned thin film; and

forming an unpatterned thin film on the first patterned thin film;

forming a mask [for patterning] on the unpatterned thin film that is used to pattern the unpatterned thin film[on the unpatterned thin film]; and

forming the second patterned thin film by selectively etching the unpatterned thin film through the use of the mask,

wherein the mask is formed by aligning with respect to the specific position of the indicator while observing the indicator, so that the mask is located above the first patterned thin film and not above the indicator, in the step of forming the mask.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Dexter Tugbang
Primary Examiner
Art Unit 3729

May 17, 2004